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# EXHIBIT 1

75839

## Microsoft Patent Predisclosure Document



**Title of Invention:** Enhanced Television Content Authoring Using HTML

**Date:** [REDACTED]

**Document Author(s):** George Moore

### Introduction

*[Please provide a high level description of the invention, including the names of the people who contributed to the invention.]*

This invention allows content producers (e.g., Hollywood) to easily enhance their television, movie and commercials for broadcast via the use of standard HTML commands. By allowing these producers to leverage their existing investment in web-based authoring tools for HTML, we can easily allow for the development of data-enhanced shows without needing to develop an entirely new infrastructure specific for broadcasts. This invention covers not only how the shows are originally authored, but also the controlling infrastructure for the delivery, display and timing of these data-enhanced shows. Some examples of data enhanced shows would include:

- Providing for ancillary statistics during a sports broadcast, allowing the user to find more detailed information on a particular team, or player.
- Interactive merchandising of clothing, drinks, furniture, etc. during a television show broadcast (e.g., allowing the purchase of Jerry Seinfeld's shirt during his sitcom show).
- Additional relevant information on the current topic of a documentary, allowing the user to "read more about it" either during or after the broadcast.

One of the key aspects of this invention is allowing the author to treat a streaming motion picture show as the "background" in an HTML frame, thereby allowing any HTML commands or extensions to be placed on top of the motion images, in much the same way that existing web browsers allow the author to create a static background bitmap which HTML commands can then be placed on top.

Note that this invention is applicable not only to broadcast sources of streaming analog or digital video (satellite, terrestrial television, cable, Internet multicasts), but also to other non-traditional distribution sources for movies (DVD, CDROM, etc). Pre-authored data enhancements could either be delivered simultaneously with the video (as in a broadcast source), pre-downloaded and pre-cached on the user's hard disk in the middle of the night, or extracted in real-time from a DVD or CDROM. This invention will work equally well in all of these cases.

The inventors are George Moore and Laura Butler.

### Motivation for the Invention:

*[Describe (1) the problem addressed by the invention (e.g., limitations of prior products of Microsoft, or others), and (2) your solution to the problem (including what "new" things your invention does and a high-level description of how it does them).]*

During the interactive television trials by a variety of companies throughout the early 1990s, one of the fundamental problems for creation of enhanced broadcasts was always the tools required to author the enhanced content in the first place. A variety of companies (Microsoft included) created some basic authoring tools, but because this was a new platform, with a different set of APIs, there weren't a lot of people creating authoring tools for these environments. Therefore, content authoring for this environment was difficult.

With the raise in popularity of the web, and the rapid progress in the capabilities of web browsers, allowing third parties to use their existing web-based tools to create enhanced content for television shows means

that we can instantly draw upon the richness of thousands of tools, plug-ins and controls available for modern browsers. This is the main new part of our invention: treating a motion picture as a background surface within a web browser. The other main new part of this invention deals with the header information in each of the HTML files which control where the files are stored on the local hard disk, when they are displayed (synchronized with the appropriate scene on the show), how long they are displayed, and localization/platform information. This way several sets of localized enhancements could be broadcast in a market such as Europe, and each PC will pick out and display the appropriate language enhancements for their particular country.

**Description of the Invention:**

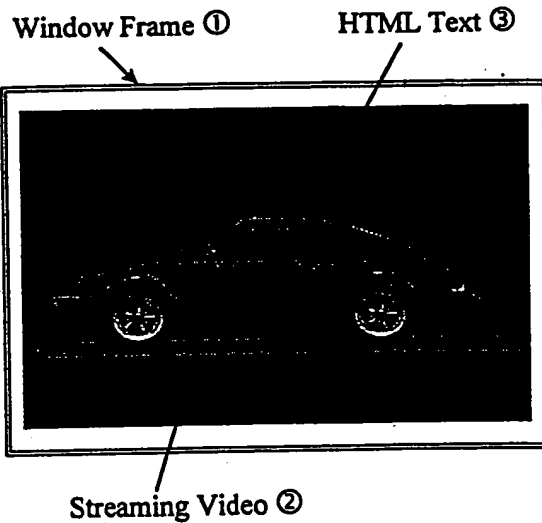
*[Describe your proposed implementation of the invention, including the architecture and design details of the implementation. The design details should include a description of the component parts of, and individual operations performed by, your implementation. The use of a specific example, showing how the invention solves the problem being addressed, can be particularly helpful. You should also mention whether you have thought of any other implementations, or applications of, your invention. In most cases, 1-2 pages of description should be adequate to start the patent application process, although a more detailed description may greatly enhance the efficiency of the process.]*

[REDACTED]

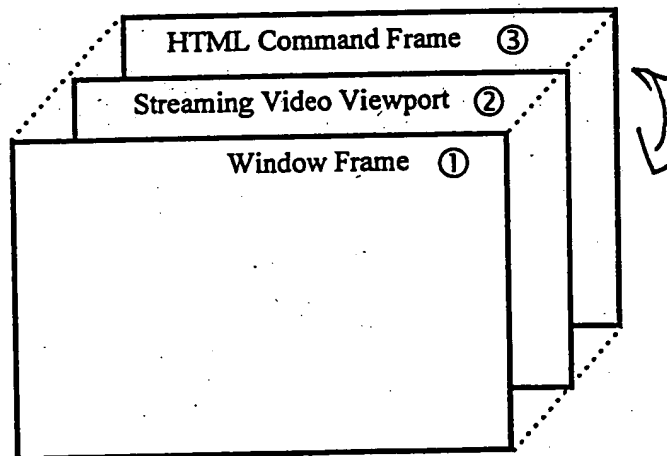
**This invention:**

We combine streaming video in a window, color keying, and an HTML command frame into one new invention. By placing an HTML command frame (such as from the new Microsoft Internet Explorer 3.0) *behind* a viewport window that is displaying streaming motion video, and then programming the on-board color keying hardware to exclude all colors except, for example magenta, any non-magenta colored HTML commands that are then issued will appear to float on *top* of the streaming video. The following illustration shows this more clearly (this may not print out too well — it is more legible on the screen):

### Top View (what the user will see)



### Edge View (what the programmer will see)



The HTML Command Frame (item #3) is placed behind the Streaming Video Viewport (item #2). If the color keying hardware has been programmed to allow any color except magenta to pass through, then any non-magenta colored text or graphics displayed in item #3 will be placed on top of the video. In the example above, the text "Enhanced Content Text" was issued as an HTML command in the HTML Command Frame, and it appears on top of the Porsche 911 shown in the Streaming Video Viewport. The HTML Command Frame (#3) will take care of parsing the web page(s) and associated pieces (animations, sounds, bitmaps, ActiveX controls, etc), getting the HTML control to position itself appropriately, navigation to the appropriate content page, and color keying as necessary.

If the user moves or resizes the video window, then all three of these "planes" will be moved together, furthering the illusion that it is one object on the screen. Note that this could also run full-screen without a window frame (item #1 would not be drawn), thereby making the PC screen appear to be more like a television set than a computer monitor.

The other key portion of this invention deals with the command and control information for the specific HTML Command Frames (#3). This information is stored in an associated control file which tells the system when to display and when to tear down specific .HTM files.

We also create a different default .HTM files for different data back ends, namely:

- Live (broadcast via satellite or terrestrial television data encoded in the VBI)
- Recorded (video tape, game cartridge, CD-ROM, DVD disk)

The timing information necessary for Live vs. Recorded will be different, and can be adjusted by the system. These default .HTM files will be also be used in the event there are no enhancements associated with a video stream. When this happens you will simply see the streaming video with no extensions or enhancements, but the default .HTM files will be "live" so they can wake up and process the commands when an enhancement shows up.

The file format for controlling the display and placement of the associated .HTM files will be something like this (we haven't fully fleshed this part out yet):

<File Header with # of frames, and repeat count>

<Frames1 - N>

<Header info, with timing start, timing duration, language localization info, etc.>

<URL of web page>

This allows the content author to control when and for how long each HTML "page" will be displayed over or along side the video.

#### Diagrams and Flow Charts:

*[To support the description provided above, please include: (a) at least one block diagram showing the architecture of the system that implements your invention, and (b) at least one diagram illustrating the primary steps performed by your invention.]*

**Step 1:** During system initialization, the three video planes are created and synchronized with each other. The topmost frame (#1) controls the placement and size of the other two planes.

**Step 2:** The system tunes to the user selected broadcast channel (satellite, television, cable, Internet multicast), or the user inserts a data-enhanced disk (CDROM or DVD). The data enhanced .HTM command files are extracted from the appropriate transmission transport and saved on the user's local hard disk in a location specified by the show's content author. For each logical grouping of .HTM files, there will be one control file which contains the header information shown above. In the case where you are dealing with a device with limited memory (e.g., a television set), you may not have a local hard disk. When this happens, the data enhancements are simply shown as they are broadcast in real-time, with no caching of the enhancements.

**Step 3:** In the case of a broadcast which will occur at some point in the future (e.g., tomorrow), an entry is placed in the local electronic programming guide database to link the specified enhancements with a broadcast network, or an individual show on that network. When the user tunes to that network or show at that future time, the corresponding data enhancements are automatically loaded. In the case of a data-enhanced disk insertion, the corresponding data enhancements are extracted as soon as the disk begins playing.

**Step 4:** The system examines the control file to determine at what time each of the specific .HTM files will be shown with the video. This synchronization can either be at a gross level (e.g., +/- 15 second accuracy as simple offsets from the start of the show as derived from the information about the show stored in the local electronic programming guide database), or at a very fine level (e.g., frame-level synchronization with the video).

#### Additional Information:

- List the names of any people who contributed to the invention.

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